

Digital Advertising: A More Effective Way to Promote Businesses' Products

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Abstract

Digital advertising, on internet and mobile gadgets, has outpaced the traditional media advertising and for the first time in 2013 generated more advertising spending than television advertising. Digital advertising is believed to be an effective way to better target potential customers in the global market. Evidence shows that businesses have increasingly switched their advertising focus from traditional to digital media. This research uses an empirical study that explores the effectiveness of digital advertising vs. traditional media advertising along several mass marketing dimensions. The results reveal that while traditional media advertising still holds its ground, digital advertising offers more effectiveness for promoting companies' products. The results suggest that marketers need to use more digital advertising in order to better target their customers, particularly the young consumers.

Keywords: digital advertising, internet marketing, traditional media advertising, online advertising, mobile advertising

1. Introduction

According to the Digital Advertising Bureau, in 2013 the digital advertising crossed the \$40 billion mark for the first time ever and surpassed broadcast television. Since 2004, the compound annual growth rate in this sector, both internet and mobile, has been 18 percent, while the total media advertising spending in the US is expected to reach \$180 billion in 2014, according to eMarketer (Koetsier, 2014).

Many advertisers have either increased their spending on the digital media, or have switched from the traditional media as they believe interactive advertising on the internet, mobile phones, and social networks is more effective and efficient, given the rising cost of traditional media. However, such a shift does not necessarily mean that traditional advertising would fade away in the near future. Many studies have indicated that digital advertising works in conjunction with TV, print, and other traditional media to generate the greater increase in marketing effectiveness (Koetsier, 2014).

This empirical study intends to compare the effectiveness of traditional vs. digital advertising, aiming to reveal some insights that can help advertisers with their strategic thinking.

2. Review of Literature

Due to the wide availability of broadband connection on the internet, and new generations of mobile connections, more people around the globe are able to browse the web for a variety of products. According to eMarketer, digital and mobile advertising spending shares have enjoyed double digit growth in recent years. At the same time, traditional advertising spending has remained nearly flat. Figure 1 presents the projected traditional media advertising spending and digital advertising spending in the US market.

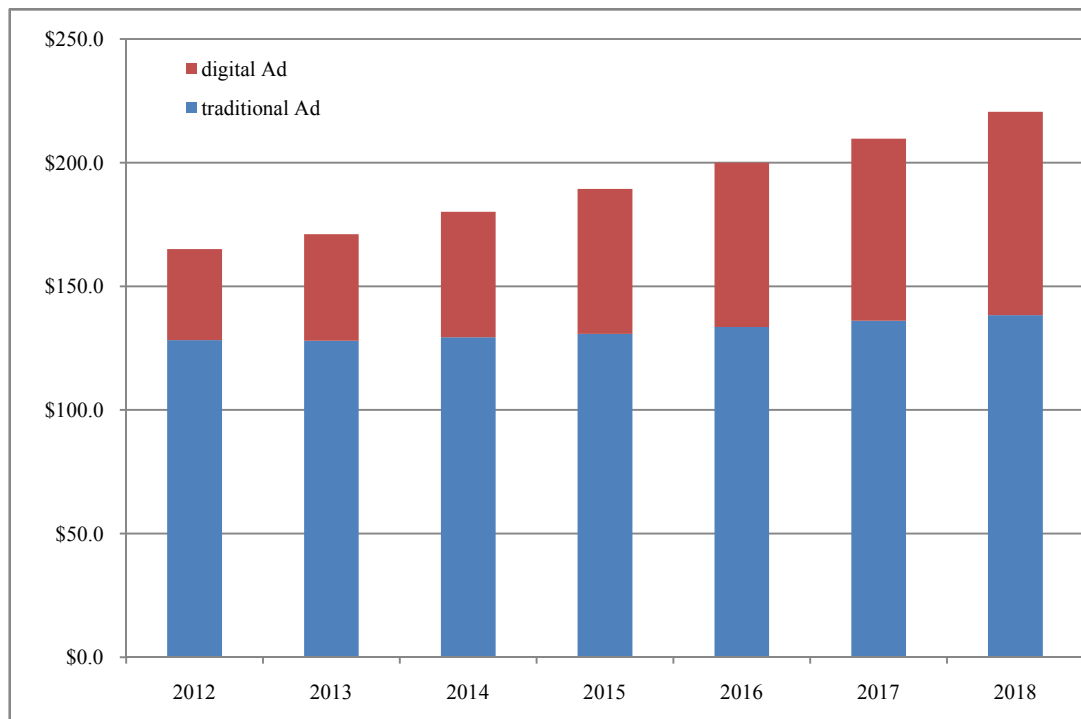


Figure 1. US Traditional Media Ad vs. Digital Ad Spending, 2012-2018, in US\$ bil.

Source: eMarketer.

<http://www.emarketer.com/Article/Total-US-Ad-Spending-See-Largest-Increase-Since-2004/1010982>

Many previous studies focused on the effectiveness of interactive advertising. Smith et al. (2005) examined the influence of recommendations on consumer decision making during internet shopping experiences. Their study reveals that many internet consumers seek and accept recommendations in order to effectively manage the amount of information available during internet search processes. It suggests that retailers consider a number of factors including recommender characteristics, shopping goals, and product characteristics in their bid to provide consumers with the appropriate type of recommendation for their respective decision-making task.

Fiore et al. (2005) examined whether image interactivity technology (IIT), which enables the creation and manipulation of product images on a retailer's Web site, affects experiential value and instrumental value. This study also examined whether IIT affects telepresence (i.e., simulated experience with the product in a store) and how IIT, telepresence, and value variables affect consumer responses toward an internet retailer. A proposed model is supported using an experimental design with 206 subjects and Analysis of Moment Structures. Significant hypothesized paths are found between levels of IIT, telepresence, and value variables. In addition, telepresence, experiential value, and instrumental value produce significant hypothesized paths with consumer response variables (attitude, willingness to purchase, and willingness to patronize). Implications for Web site development and marketing apparel internet are provided.

Sawhney et al. (2005) believed that firms were recognizing the power of the Internet as a platform for co-creating value with customers, and focused on how the Internet could impact the process of collaborative innovation. The authors outline the distinctive capabilities of the Internet as a platform for customer engagement, including interactivity, enhanced reach, persistence, speed, and flexibility, and suggest that firms can use these capabilities to engage customers in collaborative product innovation through a variety of Internet-based mechanisms. Van Meer (2006) focused on banks and other financial institutions. His article reports on a real-world application of customer development and retention on a Web-banking site using Clickstream data from a financial institution in The Netherlands. The study shows that visitors and customers diverge in internet development over time.

Clickstream analysis was an effective tool for creating a complete picture of customer activity and helped give a precise understanding of customer internet behavior at an individual level (Van Meer, 2006). Moe (2006) highlighted a large-scale field experiment conducted at an informational Web site where the timing of pop-up promotions being offered was varied and examined the Web user's reaction to the promotion in terms of (a) a direct response to the promotion (i.e., clickthrough) and (b) any indirect response in terms of the user's Web-site-exit behavior. Factors

such as delay in offering the pop-up promotion and the page on which the pop-up appears were identified as variables that could be manipulated to enhance the individual's response. Owen & Humphrey (2009) argued that although new social media have become available in recent years, the continuance of these media in current forms and the diffusion of these into common use by an entire society are not guaranteed. In many instances, applications that have been evolving are still at a pioneering stage, often leading to negative or ethically-questionable uses. The study proposes that the evolution of social media and communication channels for marketing uses depends on a set of underlying infrastructures: a core/technological infrastructure, a competitive/commercial infrastructure, a political/regulatory infrastructure, and a social infrastructure. Dinner et al. (2010) studied the effect of digital advertising on offline sales, focusing on measuring this effect by using dynamic linear programming. Their study concludes that advertising cross-effects are large, particularly from digital advertising to offline sales, and that advertising has differential effects on customer counts and spending across channels. This sales decomposition allows the firm to align its advertising spending with its advertising objectives. Karimova's (2011) study discussed the claim that "interactive" advertising is a "two-way communication" while "traditional" advertising is a "one way communication". The author argued the incorrectness of this claim by addressing the etymology of the word "communication". She asserted that the term "two-way communication" is tautological and the term "one-way communication" is contradictory, because the word "communication" implies mutual exchange. She furthered that the main goal of any type of advertising is to sell a product or service. Consumer's feedback is purchasing (or refusal to purchase) the product or service by the target group. Thus, "traditional" advertising can gain feedback and, in some cases, it can happen immediately. Some of the recent studies focused on online ratings of products and coupons that revealed their impacts on consumers' shopping behavior (Blanding, 2011) (Nobel, 2011).

Moe & Trusov (2011) believed that potential buyers were also increasingly relying on the information provided by others online, such as rating and forums, which drastically increased in numbers since the explosion of the internet. These could have the potential to significantly affect product sales. The consequence of the ratings dynamics described above was that user-provided product ratings did not always accurately reflect product performance, yet they still had the potential to significantly influence product sales. This could be quite disconcerting for product marketers, and as a result, many marketers were investing in activities intended to create a more favorable ratings environment for their products with the intention of boosting sales (Moe, 2011). Lastly, Joshi & Hanssens (2010) examined direct and indirect effects of advertising spending on firm value, showing that both digital media and traditional media advertising can be effective.

A study conducted by Agarwal, et al. (2011) used data generated through a field experiment for several keywords from an online retailer's ad campaign. Using a hierarchical Bayesian model, the authors measure the impact of ad placement on both clicks-through and conversion rates. They find that while click-through rate decreases with position, conversion rate increases with position and is even higher for more specific keywords. The net effect is that, contrary to the conventional wisdom in the industry, the topmost position is not necessarily the revenue- or profit-maximizing position. The authors' results, while aimed at firms participating in sponsored search auctions, provide insight into consumer behavior and advertising strategies in these types of environments.

Hampel, et al. (2012) investigated the effect of premium-print advertising techniques on the key constructs of advertising impact and consumer behavior through a field experiment using participants drawn from the general population. They show that tested advertisements employing premium-print technologies convey a greater sense of uniqueness and prestige than conventional advertising, boost consumer attitudes toward an advertisement as well as toward the brand, and enjoy higher ratings on measures of willingness to buy, positive word of mouth, and consumer willingness to pay a price premium.

Chao, et al. (2012) investigated the emergence of online advertising as a prominent promotion vehicle that has prompted businesses around the globe to strategically shift their focus to online media. The research results reveal traditional media advertising are still effective, and suggest that marketers need to balance online and traditional media advertising in order to better target their customers. This study, however, did not include a mobile communication sector.

Flosi, S., Fulgoni, G. & Vollman, A. (2013) tried to identify and to better understand the incidence of sub-optimal digital campaign delivery as it pertains to viewability, audience delivery, geographic targeting, and brand safety. The study highlighted and evaluated the implications for the digital advertising ecosystem of several significant empirical generalizations that have emerged.

Wang, et al. (2013) examined the impacts of exposure duration and banner ad complexity on advertising persuasion in a web advertising environment. Their findings show that, when a banner ad is difficult to process in the priming phase,

increasing the duration of exposure to the ad in the priming phase causes a linear increase in respondent attitudes towards the target ad and brand in the testing phase.

Edelman (2014) examines ineffectiveness problems that result, in part, from malfeasance by outside perpetrators who overstate their efforts to increase their measured performance. In parallel, similar vulnerabilities result from mistaken analysis of cause and effect - errors that have become more fundamental as advertisers target their advertisements with greater precision. The author attempts to identify the circumstances that make advertisers most vulnerable, notes adjusted contract structures that offer some protections, and explores the origins of the problems in participants' incentives and in legal rules.

Cook (2014) investigates online advertising on smartphone and tablets. He challenges researchers to improve survey taking on mobile devices. He believes that over the next five years, the use of touch-screen mobile devices will grow dramatically, and respondents can be expected to use them at a higher rate, as the screens expand (somewhat) and the devices gain more multi-purpose media use.

The review of literature tenders a wide range of aspects for both digital advertising and for traditional media. While this study intends to focus only on the fundamental issues, it is a comparison of the effectiveness of traditional and digital advertising that renders this study to be unique. The objective of the study is to provide some insights to marketers that would improve the effectiveness of their advertising.

3. Methodology

Present study captures consumer perceptions of traditional and digital advertisement effectiveness, focusing on a segment that is often targeted by both traditional and digital advertisers. A survey questionnaire was designed to investigate the features that were most important for the advertisers.

3.1 Variable Selection

The variables that were selected are based on our literature review. Twelve research variables were identified from the review of literature and presented below. The respondents were asked to identify how frequently they were aware of the advertising messages, presented either in the digital form or in the form of the traditional media. The respondents were asked to evaluate the frequency they would notice each of these variable messages advertised in digital advertising and in traditional media advertising. Five point Likert scale is applied, with 5=always, 4=mostly, 3=frequently, 2=occasionally, 1=never.

The following variables were evaluated:

- 1). *Product quality and features offering*
- 2). *Offering free samples*
- 3). *Offering free trials*
- 4). *Offering attractive prices*
- 5). *Offering discounts and promotion*
- 6). *Offering coupons*
- 7). *Offering rebates*
- 8). *Offering incentives to buyers in online store or retail stores*
- 9). *Offering free delivery or delivery incentives*
- 10). *Offering prizes*
- 11). *Offering sweepstakes*
- 12). *Offering sport or cultural sponsorship*

3.2 Sampling, Hypotheses, and Tests of Hypotheses

The targeted sample respondents were college students in a large university in the northeast of the U.S. One-page survey questionnaires were distributed online over past semesters to target respondents, specifically with the aim of obtaining the opinions of the respondents who are often exposed to both traditional and digital advertising. The null hypotheses for this study stated:

Hypothesis 1. There is no significant difference in product quality and/or features offering between digital media and traditional media advertising.

Hypothesis 2. There is no significant difference in offering free samples between digital media and traditional media advertising.

Hypothesis 3. There is no significant difference in offering free trials between digital media and traditional media advertising.

Hypothesis 4. There is no significant difference in offering attractive prices between digital media and traditional media advertising.

Hypothesis 5. There is no significant difference in offering discounts and promotion between digital media and traditional media advertising.

Hypothesis 6. There is no significant difference in offering coupons between digital media and traditional media advertising.

Hypothesis 7. There is no significant difference in offering rebates between digital media and traditional media advertising.

Hypothesis 8. There is no significant difference in offering incentives to buyers in digital media store or retail stores between digital media and traditional media advertising.

Hypothesis 9. There is no significant difference in offering free delivery or delivery incentives between digital media and traditional media advertising.

Hypothesis 10. There is no significant difference in offering prizes between digital media and traditional media advertising.

Hypothesis 11. There is no significant difference in offering sweepstakes between digital media and traditional media advertising.

Hypothesis 12. There is no significant difference in offering sport or cultural sponsorship between digital media and traditional media advertising.

The alternative hypothesis stated: there is significant relationship between the respondents' views of digital advertisements and traditional media advertisements over the selected variables.

When two samples are involved and the values for each sample are collected from the same individuals (that is, each individual gives two values, one for each of the two categories), or the samples come from matched pairs of individuals, the Marginal Homogeneity Test can be used. If the significance level is less than the desired level, then the dependent sample means will be different, and if the significance level is greater than the desired level, then the mean of the dependent samples will be the same. It tests whether combinations of values between two paired ordinal variables are equally likely. The marginal homogeneity test is typically used in repeated measures situations. Since the data collected in this study is of ordinal scaling, as the respondents were asked to provide their opinions on the paired variables: digital advertising and traditional media advertising, the use of marginal homogeneity test is appropriate. The null hypotheses should be rejected if the significance level is less than or equal to 5% in any one criterion (Hamburg, 1977) (Conover, 1980) (Davis and Cosenza, 1985) (IBM SPSS Exact Tests, SPSS Inc. 2010).

4. Results

One thousand three hundred questionnaires were distributed in a large metropolitan area in the northeast of the U.S., of which five hundred eighty five were returned, of which five hundred seventy three were usable. This represents roughly 47.75 percent response rate. The following table presents the background information of these respondents, including gender and income.

Table 1. Background Information of the Respondents

	valid %
Age	
<18	1.4
18-35	96.6
35-50	1.4
>50	0.7
Gender	
Male	53.5
Female	46.5
Income	
<\$35k	18.9
\$35-50k	21.7
\$50-70k	22.4
>\$70k	36.9
Education	
High school	6.6
College	83.3
Graduate	10.2
Marital status	
Married	24.3
Single	75.7

Source: original

Table 2 below presents the respondents' patterns of using the media based on the questionnaires. The study indicates that nearly all respondents have access to internet either via broadband or mobile devices, and spend good deal of time on internet, although no breakdown between computers and tablets vs. mobile phones was recorded.

Table 2. Media Usage Patterns of the Respondents

	Valid %
Hours spent on watching TV	
<5 hours	28.3
5-10	33.9
10-15	20.5
15-20	9.2
>20	8.0
Hours spent on newspaper	
<5 hours	71.3
5-10	21
10-15	4.5
15-20	1.9
>20	1.4
Hours spent on magazines	
<5 hours	77.1
5-10	16.6
10-15	3.8
15-20	0.9
>20	1.6
Hours spent on internet via PC/tablets/smartphones	
<5 hours	21.7
5-10	30.1
10-15	22.1
15-20	14.2
>20	11.9

Source: original

Overall, the means of traditional media advertising are higher than those of digital media. Table 3 shows the Marginal Homogeneity Test results. It indicates that nine of paired variables test results show significance levels less than 5% (those highlighted in bold). Therefore, nine hypotheses where there are significant differences between the respondents' views of digital media versus traditional advertising messages are rejected. Three of paired variables test results show significance levels greater than 5%. Therefore, these hypotheses are accepted: for these promotional elements there are no significant differences in the respondents' awareness based on digital advertising messages and the traditional advertising messages.

Table 3. The Marginal Homogeneity Tests

	Mean MH Statistic	Sig. (2-tailed)
<i>Product quality and features offering</i>	962	0.00
<i>Offering free samples</i>	758	0.00
<i>Offering free trials</i>	689	0.00
<i>Offering attractive prices</i>	845	0.08
<i>Offering discounts and promotion</i>	875	0.00
<i>Offering coupons</i>	786	0.00
<i>Offering rebates</i>	709	0.00
<i>Offering incentives to buyers in online store or retail stores</i>	943	0.00
<i>Offering free delivery or delivery incentives</i>	701	0.00
<i>Offering prizes</i>	524	0.08
<i>Offering sweepstakes</i>	444	0.16
<i>Offering sport or cultural sponsorship</i>	473	0.00

Source: original

5. Managerial Implications and Recommendations

The Marginal Homogeneity Test results reject nine of the null hypotheses; therefore, the study concludes that there are statistically significant differences from the consumers' viewpoints between digital media and traditional media advertising. Specifically, nine variables out of twelve show significance levels that are less than 5%: ***Product quality and features offering, Offering free samples, Offering free trials, Offering discounts and promotion, Offering coupons, Offering rebates, Offering incentives to buyers in stores, Offering free delivery or delivery incentives, and Offering sport or cultural sponsorship.*** The findings suggest that traditional media will not disappear as a result of the rise of digital media. The two may work more effectively together to yield better advertising.

This study accepts three hypotheses: ***Offering attractive prices, Offering prizes, and Offering sweepstakes,*** as there are no statistically significant differences in effectiveness of the listed marketing activities between digital media and traditional media advertising. This may suggest, from the consumers' viewpoints, it is less important for advertisers focusing on these issues when they are allocating funds to different advertising media.

The findings of this study may also suggest that digital advertising may not be a more effective way to send the messages to the target customers as compared to the traditional media advertising messages. Credibility of this suggestion should be tested further, as this study has a preliminary nature. Digital advertising has emerged as a great challenge to traditional advertising, not only because of its many advantages, but also because it gives advertisers an additional vehicle to reach their potential customers and often obtain instant feedback.

The advertising industry is advancing to the digital world, forcing a restructuring in traditional media. The internet search engine giant, Google earned more than \$65 billion, or 92.8% of their total revenue from advertising in 2013 (Brustein, 2014). Facebook, the most popular social networking company, generated \$5.4 billion in the first six months of 2014 (Facebook, 2014).

While researchers are inquiring the truth, practitioners are experimenting with new ways to reach their target customers; therefore the crowded advertising market is getting even more crowded. The results of this research also suggest that traditional media advertising still has a strong presence and will not fade away in the near future. A

strategic balancing between the traditional media and digital advertising will make advertising industry more effective.

6. Limitations and Future Research

The academic research that focuses on comparisons between traditional media and digital advertising is limited, and it may take some years before significant research publications are available. As a preliminary and exploratory research, this study has provided if only limited glimpses of some fundamental aspects of digital advertising.

Further in-depth research should delve more into the factors and elements that predict the effectiveness of traditional versus digital advertising. Would consumers eventually prefer more digital advertising in the future? Does the younger generation differ from the older generation since younger people work more digital media? Can traditional media advertising improve its effectiveness in a rapidly moving pace of today's society given that it does not offer instant feedback as compared to digital advertising? As some of the respondents commented, they use the digital media primary for looking up product related information. These issues should also be addressed in future research.

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